

RIVERSIDE PUBLIC UTILITIES

WATER QUALITY REPORT

1998

Dear Valued Water Customer:

Quality drinking water is essential to good health. Riverside Public Utilities is pleased to provide its customers with water that continues to meet or exceed all state and federal water quality standards. This newly revised Water Quality Report complies with regulations requiring yearly notification of the quality of water delivered to our water customers.

Riverside Public Utilities' customer-owners can be proud of their consumer-owned water system. Your public water utility continues to provide excellent reliability, customer service, water quality and lower rates. In fact, Riverside's water rates remain among the lowest in Southern California. And in a recent service comparison, Riverside's emergency response time was 33 percent faster than private or investor-owned utilities. We also provide a host of valuable community programs and services, from water efficiency surveys to water education school materials.

Public participation regarding water quality issues is welcomed at our Board of Public Utilities meetings, which are held at 8:15 a.m. on the first and third Fridays of each month at Riverside City Hall, Council Chambers. Agendas are posted 72 hours prior to the meeting dates at City Hall. Riverside's Water Operations staff are also available to answer any questions you may have regarding Riverside's water supply at (909) 351-6331.



Bill D. Carnahan
Public Utilities Director

1998 Water System Facts

Water System Established: 1913
Service Area Population: 250,799
Service Area Size: 76.4 square miles
Smallest Pipeline: 1 inch
Largest Pipeline: 72 inches
Miles of Pipeline: 861
Miles of Canal: 12
Number of Fire Hydrants: 6,176
Number of Domestic Wells: 47
Number of Active Reservoirs: 16
Total Reservoir Capacity: 100.4 million gallons
Daily Average Production: 60.6 million gallons
Peak Day Production: 101.9 million gallons
New Historical Peak: 101.9 million gallons



SDMS Doc ID 166377

RIVERSIDE PUBLIC UTILITIES' 1998 WATER QUALITY REPORT

PRIMARY STANDARDS: Mandatory Health Related Standards

	STATE MCL	STATE PHG or MCLG	RIVERSIDE Average	RIVERSIDE Range	Sources of Contamination
MICROBIOLOGICAL					
Total Coliform (a)	5%	0%	0%	0 - 0.3%	Naturally occurring
CLARITY (NTU)					
Turbidity	0.5	0	0.1	0 - 0.2	Naturally occurring
REGULATED ORGANIC					
Total Trihalomethanes "TTHMs"(b)	100 ppb	0	3 ppb	ND - 9 ppb	Byproduct of disinfection treatment
Trichloroethylene "TCE"	5.0 ppb	0.8 ppb	ND	ND - 0.8 ppb	Industrial, commercial and aircraft activities
Dibromochloropropane "DBCP"	200 ppt	1.7 ppt	55 ppt	ND - 130 ppt	Agricultural activities
REGULATED INORGANIC					
Nitrate* (NO3)	45 ppm	45 ppm	19 ppm	10 - 29 ppm	Naturally occurring
Fluoride	2 ppm	0.8 ppm	0.7 ppm	0.6 - 0.9 ppm	Naturally occurring
Arsenic	50 ppb	NS	2.8 ppb	<2 - 12 ppb	Naturally occurring
RADIOLOGICAL					
Gross Alpha (c)	15 pCi/L	NS	8 pCi/L	2 - 15 pCi/L	Naturally occurring
Uranium (c)	20 pCi/L	NS	9 pCi/L	2 - 18 pCi/L	Naturally occurring
LEAD/COPPER (AL)					
Lead (d)	15 ppb	2 ppb	<5 ppb	<5 - 13 ppb	Home plumbing
Copper (d) (90% Household Tap)	1300 ppb	170 ppb	480 ppb	30 - 740 ppb	Home plumbing
ADDITIONAL MONITORING**					
Perchlorate (PAL) (e)	18 ppb	NS	<5 ppb	<5 - 5 ppb	Rocket fuel
Radon	NS	NS	670 pCi/L	600 - 700 pCi/L	Naturally occurring

Nitrate in drinking water at levels above 45 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider. Riverside provides drinking water which on average is at 19 ppm and has a range from 10 ppm to 29 ppm during the year. On five days during 1998, Riverside provided water that was greater than half the MCL, but did not exceed 45 ppm. The California Department of Health Services has set the MCL for nitrate at 45 ppm. Riverside has 47 wells that are blended to comply with drinking water standards. The city conducts extensive monitoring of the blend operations. Seasonal variation in demand and flow in addition to system maintenance and repair impact the nitrate levels during the year. Riverside strives to provide the best quality water possible from our water resources.

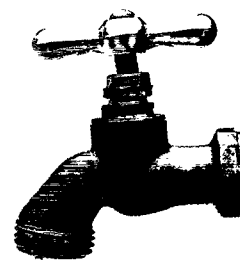
There are no federal and state standards at this time for these constituents. However, California has set a provisional action level for perchlorate.

In addition to the above parameters, Riverside Public Utilities conducted monitoring for 95 additional chemicals. All results were below detection levels. If you have additional questions or concerns regarding Riverside's water supply, please call Lu Cinda Norried with Riverside Public Utilities at (909) 351-6331.

Percent System Source – Groundwater 99.6%

SECONDARY STANDARDS: Aesthetic Standards

	STATE MCL	RIVERSIDE Average	Range	Sources of Contamination
Color Units	15	<3	<3	Naturally occurring
Odor Threshold Units	3	1	<1 - 2	Naturally occurring
Chloride	500 ppm	22 ppm	16 - 32 ppm	Naturally occurring
Sulfate	500 ppm	67 ppm	56 - 74 ppm	Naturally occurring
Total Dissolved Solids "TDS"	1000 ppm	315 ppm	262 - 358 ppm	Naturally occurring
pH Units	NS	7.6	7.4 - 7.8	Naturally occurring
Hardness (CaCO ₃)	NS	201 ppm (12 gpg)	110 - 260 ppm	Naturally occurring
Sodium	NS	37 ppm	25 - 43 ppm	Naturally occurring
Calcium	NS	61 ppm	46 - 79 ppm	Naturally occurring
Potassium	NS	3 ppm	2 - 4 ppm	Naturally occurring
Magnesium	NS	11 ppm	6 - 12 ppm	Naturally occurring



**Riverside's
drinking
water meets or
surpasses all
state and federal
water quality
standards.**

Definitions & Notes

Maximum Contaminant Level Goal (MCLG) The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. EPA.

Maximum Contaminant Level (MCL) The highest level of a contaminant that is allowed in drinking water. California is a primacy state and may adopt federal standards or set standards that are more stringent. MCLs are set as close to the PHGs and MCLGs as is economically or technologically feasible.

Public Health Goal (PHG) The level of a contaminant in drinking water below which there is no known or expected health risk. PHGs are set by the California EPA.

Action Level (AL) The concentration of a contaminant that, if exceeded, triggers treatment or other requirements which a water system must follow.

Provisional Action Level (PAL) The provisional concentration of a contaminant that, if exceeded, triggers treatment or other requirements which a water system must follow.

Primary Drinking Water Standards (PDWS) Primary MCLs, specific treatment techniques adopted in lieu of primary MCLs, and monitoring and reporting requirements for MCLs that are specified in regulations.

Parts Per Million (PPM) One part per million corresponds to one minute in two years or one penny in \$10,000.

Parts Per Billion (PPB) One part per billion corresponds to one minute in 2,000 years or one penny in \$10,000,000.

Parts Per Trillion (PPT) One part per trillion corresponds to one minute in two million years or one penny in \$10,000,000,000.

PicoCuries Per Liter (pCi/L) A measure of the radioactivity in water.

Nephelometric Turbidity Units (NTU) A measure of suspended material in water.

ND Not detected at the detection limit for reporting.

NS No standard.

GPG Grains per gallon of hardness. Less than the detectable levels.

(a) Results of all samples collected from the distribution system during any month shall be free of total coliforms in 95% or more of the monthly samples.

(b) EPA is expected to promulgate a Disinfection Byproducts Rule in January 2002.

(c) EPA is expected to promulgate a Radionuclide Rule in January 2000.

(d) The Lead and Copper Rule requires that 90% of samples taken from drinking water taps in program homes must be below the Action Levels.

(e) The California Department of Health Services has set a provisional action level of 18 ppb for perchlorate.

About Drinking Water Sources

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of land or through the ground, it dissolves naturally-occurring minerals and radioactive materials, and can pick up substances resulting from the presence of animals or human activity. The following contaminants may be present in source water:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems.

Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food & Drug Administration (FDA) regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the EPA's Safe Drinking Water Hotline.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

Where Does Riverside Get Its Water?



Riverside's water supply begins as rain and snow in the San Bernardino Mountains. This high quality water is naturally filtered through the sand and gravel of the Bunker Hill Basin in San Bernardino and the Riverside Basin in Riverside. These underground pools of water are tapped for domestic use by 47 wells operated by Riverside Public Utilities. In 1998, Riverside met 99.6 percent of its water needs from its own groundwater resources. Incidental water was purchased during the summer months from Western Municipal Water District and utilized in the upper zones. These purchases totaled 0.4 percent of our resources. Water quality information for imported water is available upon request.

Who Protects Our Water Supply?



Riverside Public Utilities will never allow drinking water that does not meet all state and federal water quality standards to be delivered to our customers. In fact, we have steadfastly defended our groundwater supply from two advancing contaminant plumes in the Bunker Hill Basin: the Norton Air Force Base Plume and the Redlands-Crafton Plume. We have worked cooperatively with the responsible parties to ensure acceptable clean-up plans and water quality. As a result, we brought on-line our first water treatment plant, Raub 5, in April 1998, which utilizes granular activated carbon (GAC) to treat water affected by trichloroethylene (TCE) from the Norton AFB Plume. Riverside Public Utilities has also reached an agreement with Lockheed Martin Corp. for the treatment of TCE in the approaching Redlands-Crafton Plume and is actively working with Lockheed Martin Corp. for the installation of several new GAC treatment plants in 1999 to keep TCE levels below detectable amounts in the future.

RIVERSIDE



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